

Marine Current Turbines Commercial Demonstrator - Kyle Rhea

Scoping Opinion

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**THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
(SCOTLAND) REGULATIONS 2000.**

**SCOPING OPINION FOR THE PROPOSED
SECTION 36 APPLICATION FOR THE MARINE CURRENT TURBINE
COMMERCIAL DEMONSTRATOR, KYLE RHEA**

1. Introduction

I refer to your letter of 01 April 2010 requesting a scoping opinion under the Electricity Works (Environmental Impact Assessment) (Scotland) (EIA) Regulations 2000 enclosing a scoping report.

Any proposal to construct or operate an offshore power generation scheme with a capacity in **excess of 1 megawatt** requires Scottish Ministers' consent under section 36 of the Electricity Act 1989.

Schedule 9 of the Act places on the developer a duty to "have regard to the desirability of preserving the natural beauty of the countryside, of conserving flora, fauna and geological and physiological features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest". In addition, the developer is required to give consideration to the Scottish Planning Policy on Renewable Energy other relevant Policy and National Policy Planning Guidance, Planning Advice Notes, the relevant planning authority's Development Plans and any relevant supplementary guidance.

Under the Electricity Works (Environmental Impact Assessment)(Scotland)(EIA) Regulations 2000, Scottish Ministers are required to consider whether any proposal for an offshore device is likely to have a significant effect on the environment. Scottish Ministers have considered your request for an opinion on the proposed content of the ES in accordance with regulations and in formulating this opinion; Scottish Ministers have consulted with the relevant organisations.

Please note that the EIA process is vital in generating an understanding of the biological and physical processes that operate in the area and may be impacted by the proposed tidal array. We would however state that references made within the scoping document with regard to the significance of impacts should not prejudice the outcome of the EIA process.

It is important that any development of renewable energy sources should be accompanied by a robust assessment of its environmental impacts. The assessment should also consider how any negative environmental impacts could be avoided or minimised, through the use of mitigating technologies or regulatory safeguards, so that the quality and diversity of Scotland's wildlife and

natural features are maintained and enhanced. Scottish Ministers welcome the commitment given in the report that the EIA process will identify mitigation measures in order to avoid, minimise or reduce any adverse impacts. We would suggest that the range of options considered should be informed by the EIA process in order that these objectives can be achieved. Consultation with the relevant nature conservation agencies is essential and it is advised that this is undertaken as appropriate.

2. Aim of this Scoping Opinion

Scottish Ministers are obliged under the EIA regulations to respond to requests from developers for a scoping opinion on outline design proposals.

The purpose of this document is to provide advice and guidance to developers which have been collated from expert consultees whom the Scottish Government has consulted. It should provide clear advice from consultees and enable developers to address the issues they have identified and address these in the EIA process and the Environmental Statement associated with the application for section 36 consent.

3. Description of your development

From your submitted information it is understood, the proposed development is for four tidal energy devices with the approximate electrical output of up to 5MW as an array in Kyle Rhea, located between the Isle of Skye and the Scottish mainland.

4. Land Use Planning

The Scottish Government's planning policies are set out in the National Planning Framework, Scottish Planning Policy, Designing Places and Circulars.

The National Planning Framework is the Scottish Government's Strategy for Scotland's long term spatial development.

Scottish Planning Policy (SPP) is a statement of Scottish Government policy on land use planning and contains:

- The Scottish Government's view of the purpose of planning,
- The core principles for the operation of the system and the objectives for key parts of the system,
- Statutory guidance on sustainable development and planning under Section 3E of the Planning etc. (Scotland) Act 2006,
- Concise subject planning policies, including the implications for development planning and development management, and
- The Scottish Government's expectations of the intended outcomes of the planning system.

Other land use planning documents which may be relevant to this proposal include:

- PAN 42: Archaeology–Planning Process and Scheduled Monument Procedures
- PAN 45: 2002 Renewable Energy Technologies
- PAN 50: Controlling the Environmental Effects of Surface Mineral Workings
- PAN 51: Planning, Environmental Protection and Regulation
- PAN 56: Planning and Noise
- PAN 58: Environmental Impact Assessment
- PAN 60: Planning for Natural Heritage
- PAN 62: Radio Telecommunications
- PAN 68: Design Statements
- PAN 69: Planning and Building Standards Advice on Flooding
- PAN 75: Planning for Transport
- PAN 79: Water and Drainage
- Marine Guidance Note 371 (M)
- The Highland Structure Plan
- West Highland and Islands Local Plan (WHILP).

5. Natural Heritage

Scottish Natural Heritage (SNH) has produced a service level statement (SLS) for renewable energy consultation. This statement provides information regarding the level of input that can be expected from SNH at various stages of the EIA process. Annex A of the SLS details a list of references, which should be fully considered as part of the EIA process. A copy of the SLS and other vital information can be found on the renewable energy section of their website – www.snh.org.uk

6. General Issues

Economic Benefit

The concept of economic benefit as a material consideration is explicitly confirmed in the consolidated SPP. This fits with the priority of the Scottish Government to grow the Scottish economy and, more particularly, with our published policy statement “Securing a Renewable Future: Scotland’s Renewable Energy”, and the subsequent reports from the Forum for Renewables Development Scotland (FREDS), all of which highlight the manufacturing potential of the renewables sector. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction operation and decommissioning of the development.

7. Contents of the Environmental Statement (ES)

Format

Developers should be aware that the ES should also be submitted in a user-friendly PDF format which can be placed on the Scottish Government website. A description of the methodology used in assessing all impacts should be included.

It is considered good practice to set out within the ES the qualifications and experience of all those involved in collating, assessing or presenting technical information.

Non Technical Summary.

This should be written in simple non-technical terms to describe the various options for the proposed development and the mitigation measures against the potential adverse impacts which could result. Within an ES it is important that all mitigating measures should be:

- Clearly stated;
- Fully described with accuracy;
- assessed for their environmental effects;
- assessed for their effectiveness;
- Their implementation should be fully described;
- How commitments will be monitored; and
- If necessary, how they relate to any consents or conditions.

Given that the layout and design are still developing and evolving, the exact nature of the work that is needed to inform the EIA may vary depending on the design choices. The EIA must address this uncertainty so that there is a clear explanation of the potential impact of each of the different scenarios. It should be noted that any subsequent components/scenarios procured after the ES is submitted would be subject to further environmental assessment and public consultations period if deemed to be significant.

Baseline Assessment and Mitigation

Refer to Annex 1 for consultee comments on specific baseline assessment and mitigation.

8. Archaeology and Cultural Heritage

General Principles

The ES should address the predicted impacts on the historic environment and describe the mitigation proposed to avoid or reduce impacts to a level where they are not significant. Historic environment issues should be taken into consideration from the start of the site selection process and as part of the alternatives considered.

National policy for the historic environment is set out in:

- Scottish Planning Policy *Planning and the Historic Environment at: <http://www.scotland.gov.uk/topics/built-environment/planning/National-planning-policy/themes/historic>*
- The Scottish Historic Environment Policy (SHEP) sets out Scottish Ministers strategic policies for the historic environment and can be found at: <http://www.historic-scotland.gov.uk/index/heritage/policy/shep.htm>

Amongst other things, SPP paragraph 110–112, Historic Environment, stresses that scheduled monuments should be preserved *in situ* and within an appropriate setting and confirms that developments must be managed carefully to preserve listed buildings and their settings to retain and enhance any features of special architectural or historic interest which they possess. Consequently, both direct impacts on the resource itself and indirect impact on its setting must be addressed in any Environmental Impact Assessment (EIA) undertaken for this proposed development. Further information on setting can be found in the following document: Managing Change in the Historic Environment <http://www.historic-scotland.gov.uk/managing-change-consultation-setting.pdf>.

Historic Scotland recommend that you engage a suitably qualified archaeological/historic environment consultants to advise on, and undertake the detailed assessment of impacts on the historic environment and advise on appropriate mitigation strategies.

Baseline Information

Information on the location of all archaeological/historic sites held in the National Monuments Record of Scotland, including the locations and, where appropriate, the extent of scheduled monuments, listed buildings and gardens and designed landscapes can be obtained from www.PASTMAP.org.uk.

Data on scheduled monuments, listed buildings and properties in the care of Scottish Ministers can also be downloaded from Historic Scotland's Spatial Data Warehouse at

<http://hsewsf.sedsh.gov.uk/pls/htmlldb/f?p=500:1:8448412299472048421::NO> .

For any further information on those data sets and for spatial information on gardens and designed landscapes and World Heritage Sites which are not currently included in Historic Scotland's Spatial Data Warehouse please contact hsgimanager@scotland.gsi.gov.uk. Historic Scotland would also be happy to provide any further information on all such sites.

9. Navigation

The Environmental Statement should supply detail on the possible the impact on navigational issues for both Commercial and Recreational craft, viz.

Collision Risk

Navigational Safety

Risk Management and Emergency response

Marking and lighting of Tidal Site and information to mariners

Effect on small craft navigational and communication equipment

Weather and risk to recreational craft which lose power and are drifting

In adverse conditions

Evaluation of likely squeeze of small craft into routes of larger

Commercial vessels.

Visual intrusion and noise

10. Ecology, Biodiversity and Nature Conservation

Refer to Annex 1 for consultee comments on ecology, biodiversity and nature conservation.

Species

The ES needs to show that the applicants have taken account of the relevant wildlife legislation and guidance namely, Coast Protection Act 1949 section 34, Council Directives on The Conservation of Natural Habitats and of Wild Flora and Fauna, and on Conservation of Wild Birds (commonly known as the Habitats and Birds Directives), the Wildlife & Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Protection of Badgers Act 1992, the 1994 Conservation Regulations, Scottish Executive Interim Guidance on European Protected Species, Development Sites and the Planning System and the Scottish Biodiversity Strategy and associated Implementation Plans. In terms of the SG Interim Guidance, applicants must give serious consideration to/recognition of meeting the three fundamental tests set out in this Guidance. **It may be worthwhile for applicants to give consideration to this immediately after the completion of the scoping exercise.**

It needs to be categorically established which species are present on the site, and where, before the application is considered for consent. The presence of protected species such as Schedule 1 Birds or European Protected Species must be included and considered as part of the application process, not as an issue which can be considered at a later stage. Any consent given without due consideration to these species may breach European Directives with the possibility of consequential delays or the project being halted by the EC. Likewise the presence of species on Schedules 5 (animals) and 8 (plants) of the Wildlife & Countryside Act 1981 should be considered where there is a potential need for a licence under Section 16 of that Act.

11. Water Environment

Developers are strongly advised at an early stage to consult with SEPA as the regulatory body responsible for the implementation of the Controlled Activities Regulations (CAR), to identify 1) if a CAR license is necessary and 2) clarify the extent of the information required by SEPA to fully assess any license application.

All applications (including those made prior to 1 April 2006) made to Scottish Ministers for consent under section 36 of the Electricity Act 1989 to construct and operate a electricity generating scheme will require to comply with new legislation. In this regard we will be advised by the Scottish Environment Protection Agency (SEPA) as the regulatory body responsible for the implementation of the Water Environment (Controlled Activities) (Scotland) Regulations 2005, and will have regard to this advice in considering any consent under section 36 of the Electricity Act 1989.

SEPA produces a series of Pollution Prevention Guidelines, several of which should be usefully utilised in preparation of an ES and during development. These include SEPA's guidance note PPG6: Working at Construction and Demolition Sites, PPG5: Works in, near or liable to affect Watercourses, PPG2 Above ground storage tanks, and others, all of which are available on SEPA's website at <http://www.sepa.org.uk/guidance/ppg/index.htm>. SEPA would look to see specific principles contained within PPG notes to be incorporated within mitigation measures identified within the ES rather than general reference to adherence to the notes.

Prevention and clean-up measures should also be considered for each of the following stages of the development;

- Construction.
- Operational.
- Decommissioning.

Construction contractors are often unaware of the potential for impacts such as these but, when proper consultation with the local fishery board is encouraged at an early stage, many of these problems can be averted or overcome.

- Increases in silt and sediment loads resulting from construction works.
- Point source pollution incidents during construction.
- Obstruction to upstream and downstream migration both during and after construction.
- Disturbance of spawning beds during construction - timing of works is critical.
- Drainage issues.
- Sea Bed and Land Contamination

The ES should identify location of and protective/mitigation measures in relation to all private water supplies within the catchments impacted by the scheme, including modifications to site design and layout.

Developers should also be aware of available CIRIA guidance on the control of water pollution from construction sites and environmental good practice (www.ciria.org). Design guidance is also available on river crossings and migratory fish (SE consultation paper, 2000) at <http://www.scotland.gov.uk/consultations/transport/rcmf-00.asp>.

12. Other Material Issues

Traffic Management

The Environmental Statement should provide information relating to the preferred route options for delivering equipment etc. via the trunk road network. The Environmental Impact Assessment should also address access issues, particularly those impacting upon the trunk road network; in particular, potential stress points at junctions, approach roads, borrow pits, bridges, site compound and batching areas etc.

Where potential environmental impacts have been fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by stating in the report:

- the work has been undertaken, e.g. transport assessment;
- what this has shown i.e. what impact if any has been identified, and
- Why it is not significant.

13. General ES Issues

In the application for consent the applicant should confirm whether any proposals made within the Environmental Statement, e.g. for construction methods, mitigation, or decommissioning, form part of the application for consent.

Consultation

Developers should be aware that the ES should also be submitted in a user-friendly PDF format which can be placed on the Scottish Government website. Developers are asked to issue ESs directly to consultees. Consultee address lists can be obtained from the Energy Consents Unit. The Energy Consents Unit also requires 8 hardcopies to be issued internally to Scottish Government consultees.

Where the developer has provided Scottish Ministers with an environmental statement, the developer must publish their proposals in accordance with part 4

of the Environmental Impact Assessment (Scotland) Regulations 2000. Energy consents information and guidance, including the specific details of the adverts to be placed in the press can be obtained from the Energy Consents website; <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents>

Gaelic Language

Where s36 applications are located in areas where Gaelic is spoken, developers are encouraged to adopt best practice by publicising the project details in both English and Gaelic (see also Energy consents website above).

OS Mapping Records

Developers are requested at application stage to submit a detailed Ordinance Survey plan showing the site boundary and all turbines, access tracks and onshore supporting infrastructure in a format compatible with the Scottish Government's Spatial Data Management Environment (SDME), along with appropriate metadata. The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data should be supplied in ESRI shape file format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by the Scottish Government); all metadata should be provided in this format.

Difficulties in Compiling Additional Information

Developers are encouraged to outline their experiences or practical difficulties encountered when collating/recording additional information supporting the application. An explanation of any necessary information not included in the Environmental Statement should be provided, complete with an indication of when an addendum will be submitted.

Application and Environmental Statement

A developer checklist is enclosed with this report to help developers fully consider and collate the relevant ES information to support their application. In advance of publicising the application, developers should be aware this checklist will be used by government officials when considering acceptance of formal applications.

Consent Timescale and Application Quality

In December 2007, Scottish Ministers announced an aspirational target to process new section 36 applications within a 9 month period, provided a PLI is not held. This scoping opinion is specifically designed to improve the quality of advice provided to developers and thus reduce the risk of additional information being requested and subject to further publicity and consultation cycles.

Developers are advised to consider all aspects of this scoping opinion when preparing a formal application, to reduce the need to submit information in support of your application. The consultee comments presented in this opinion are designed to offer an opportunity to consider all material issues relating to the development proposals.

In assessing the quality and suitability of applications, Government officials will use the enclosed checklist and scoping opinion to scrutinise the application. Developers are encouraged to seek advice on the contents of ESs prior to applications being submitted, although this process does not involve a full analysis of the proposals. In the event of an application being void of essential information, officials reserve the right not to accept the application. Developers are advised not to publicise applications in the local or national press, until their application has been checked and accepted by SG officials.

Judicial review

All cases may be subject to judicial review. A judicial review statement should be made available to the public.

Signed
Fiona Thompson

Authorised by the Scottish Ministers to sign in that behalf

Enclosed - Developer Application Checklist

14. Annex 1

Consultee Comments Relating To Marine Current Turbines Commercial Demonstrator, Kyle Rhea

The following organisations were asked for their comments in relation to Marine current Turbines Commercial Demonstrator, Kyle Rhea

Statutory Consultees

[Scottish Environment Protection Agency \(SEPA\)](#)

[The Highland Council](#)

[Scottish Natural Heritage \(SNH\)](#)

Non Statutory Consultees

[Maritime & Coastguard Agency](#)

[NATS \(EN Route\) Ltd.](#)

[Northern Lighthouse Board](#)

[Fisheries Committee](#)

[RYA Scotland](#)

[Chamber of Shipping](#)

[Ports and Harbours](#)

[Scottish Government - Planning](#)

[Marine Scotland](#)

[Historic Scotland](#)

[Trunk Road Network Management Directorate](#)

Scottish Environment Protection Agency (SEPA)

We would welcome meeting with the applicant at an early stage to discuss any of the issues raised in this letter. We consider that the following key issues should be addressed in the EIA process:

- Impacts upon coastal processes
- Potential pollution risks
- Water Framework Directive
- Flood risk to proposed buildings such as the substation

Please note that all of the issues below should be addressed in the Environmental Statement (ES), but there may be opportunities for several of these to be scoped out of detailed consideration. The justification for this approach in relation to specific issues should be set out within the ES.

In addition to the below scoping we note that Marine Scotland are currently reviewing the draft scoping opinion template for marine developments. We would be grateful for the opportunity to provide detailed comments on this to ensure our interests are fully addressed. Please contact Jamie Burke at Jamie.Burke@sepa.org.uk or telephone 0131 449 7268 who will be able to provide detailed comments on what should be covered.

1. Scope of the ES for marine developments
 - 1.1 From the information submitted we understand the application will involve development onshore and offshore. The development will therefore be subject to a range of different consenting regimes. We would encourage you to consider producing a single ES which covers all aspects of the proposed development. This will enable a full assessment of the potential effects of the development as a whole, rather than just parts of it.
2. Site layout and nature of construction for marine developments
 - 2.1 The ES should contain maps giving detailed information on the site layout, including details of all onshore and offshore components such as access tracks, buildings, cabling and marine devices. These maps should be supported by a statement detailing the development and reasons for the choice of site and design of the development.
 - 2.2 We welcome the proposals to utilise existing grid infrastructure, directional drilling for cabling and to import materials by way of the sea as this may help reduce the environmental impacts of the proposal.
 - 2.3 Background information which will help inform the ES process is available from EMEC (www.emec.org.uk/index.asp). The purpose of these guidelines is to encourage and assist developers to consider as fully as possible the range and scale of impacts - positive as well as negative - that might result from the testing of their device/s at EMEC. Generally if

this standard industry guidance for scoping, preparing and undertaking an EA for marine renewables is followed then we are likely to be satisfied with the assessment.

2.4 There maybe a need to address the cumulative effects of devices/arrays on coastal processes depending upon array density and location with respect to existing renewable and coastal developments. This should include a baseline assessment to identify the coastal and sedimentary processes operating in the area. The baseline assessment should identify the following features and processes in the environment:

- Sediments (e.g. composition, contaminants and particle size);
- Hydrodynamics (waves and tidal flows);
- Sedimentary environment (e.g. sediment re-suspension, sediment transport pathways, patterns and rates and sediment deposition);
- Sedimentary structures (e.g. protected banks);
- Typical suspended sediment concentrations.

2.5 Developers will then be able to ascertain if they are required to supplement or quantify the available data with in-field surveys and what mitigation measures are required. Impoundments and tidal barrages are considered to have the potential to have the biggest impact upon coastal processes and hydromorphology and the habitats and species that these support. There is therefore likely to be a need to carry out hydrodynamic modelling to predict the impacts of the structure/s on water quality during construction and coastal processes in the longer term.

3. Marine environment and the water framework directive

3.1 We welcome the scoping reports reference to The Water Framework Directive. We are the lead authority with regard to the River Basin Management Planning process in Scotland. This includes the consideration of hydromorphological pressures in coastal water bodies from the MHS mark out to 3 nautical miles. If any aspects of this specific application include works within 3 nautical miles we request that the ES address the following issues.

3.2 The River Basin management Planning (RBMP) Web Mapping Application available on SEPA's website (<http://gis.sepa.org.uk/rbmp/>) shows the Water Framework Directive (WFD) water body boundaries for transitional and coastal waters and provides further water body information.

3.3 The cumulative impact assessment should consider the footprint of the cabling and onshore works alongside the existing coastal development and activities already present within the water body in which landfall occurs. A map and information should be included in the ES showing the areas of seabed likely to be affected by the development landwards of 3nm offshore limit and the area of intertidal zone that is likely to be affected by shoreline infrastructure development.

3.4 The ES should demonstrate that the proposals will not compromise WFD

objectives. A methodology to assess cumulative impacts in line with WFD objectives has been developed. The methodology uses a concept of 'system capacity' to measure impacts to morphological conditions. Please contact us for further guidance on the assessment methodology.

4. Onshore engineering activities in the water environment
 - 4.1 In order to meet the objectives of the [Water Framework Directive](#), developments should be designed wherever possible to avoid engineering activities in the water environment. The water environment includes burns, rivers, lochs, wetlands, groundwater and reservoirs. We prefer the water environment to be left in its natural state with engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams avoided wherever possible. Where watercourse crossings are required, bridging solutions or bottomless or arched culverts which do not affect the bed and banks of the watercourse should be used. If the proposed engineering works are likely to exacerbate flood risk then a flood risk assessment should be submitted in support of the planning application and we should be consulted.
 - 4.2 Scottish Planning Policy states "Culverts are a frequent cause of local flooding, particularly if the design or maintenance is inadequate. Watercourses should not be culverted as part of a new development unless there is no practical alternative and existing culverts should be opened whenever possible. If culverts are unavoidable, they should be designed to maintain or improve existing flow conditions and aquatic life. A culvert may be acceptable as part of a scheme to manage flood risk or where it is used to carry a watercourse under a road or railway" (Paragraph 211). Planning applications should be determined in line with this planning policy.
 - 4.3 A site survey of existing water features and a map of the location of all proposed engineering activities in the water environment should be included in the ES or planning submission. A systematic table detailing the justification for the activity and how any adverse impact will be mitigated should also be included. The table should be accompanied by a photograph of each affected waterbody along with its dimensions. Justification for the location of any proposed activity is a key issue for us to assess at the planning stage. The detailed design of engineered structures in the water environment will be considered under regulations administered by us. Where flood risk may be an issue, this will need to be addressed at the planning stage.
 - 4.4 Further guidance on the design and implementation of crossings can be found in our [Construction of River Crossings](#) Good Practice Guide. Best practice guidance is also available within the water [engineering](#) section of our website.
5. Offshore water abstractions and discharges
 - 5.1 Sensitive water uses, such as fish farms, bathing waters and shellfish growing waters, and associated potential impacts should be assessed. The proximity to existing discharges and designated areas i.e. estuarine

abstractions and cooling water discharges (where relevant), should also be assessed.

- 5.2 Where a proposal involves shipping or port developments, it may be necessary to submit a detailed description of the actions to be taken to prevent the introduction of non-native marine species from ballast water transfers or hull-fouling which can result in a deterioration of a water body under The Water Framework Directive. Ships should carry and implement a ballast water management plan. Further guidance that is based on IMO (www.imo.org/index.htm) and OSPAR guidance is available at www.mcga.gov.uk/c4mca/mgn_363.pdf.
- 5.3 It might be useful for the developer to refer to the joint SOAEFD, DoT/MSA and SNH collaborative project which sampled ballast water docking at Scottish Ports (Macdonald, E. and Davidson, R. 1997. Ballast water project - final report, spring 1997. Fisheries Research Services Report No. 3/97. Aberdeen: MLA).
- 5.4 Further guidance can be found at www.thegreenblue.org.uk/youandyourboat/alienspecies.asp with regard to leisure craft and www.mcga.gov.uk/c4mca/bw_newsletter_september_2005_final.doc with regard to vessels arriving in Scottish ports in North West European waters.

6. Onshore water abstraction

- 6.1 Where water abstraction is proposed we request that the ES, or planning submission, details if a public or private source will be used. If a private source is to be used the information below should be included. Whilst we regulate water abstractions under The Water Environment (Controlled Activities) (Scotland) Regulations 2005 (as amended) we require the following information to determine if the abstraction is feasible in this location;

- Source e.g. ground water or surface water;
- Location e.g. grid ref and description of site;
- Volume e.g. quantity of water to be extracted;
- Timing of abstraction e.g. will there be a continuous abstraction;
- Nature of abstraction e.g. sump or impoundment;
- Proposed operating regime e.g. details of abstraction limits and hands off flow;
- Survey of existing water environment including any existing water features;
- Impacts of the proposed abstraction upon the surrounding water environment.

- 6.2 If other development projects are present or proposed within the same water catchment then we advise that the applicant considers whether the cumulative impact upon the water environment needs to be assessed. The ES or planning submission should also contain a justification for the approach taken.

7. Borrow pits
 - 7.1 Detailed investigations in relation to the need for and impact of such facilities should be contained in the ES or planning submission. Where borrow pits are proposed, information should be provided regarding their location, size and nature including the depth of the borrow pit floor and the final reinstated profile. The impact of such facilities (including dust, blasting and impact on water) should be appraised as part of the overall impact of the scheme. Information should cover, in relation to water, at least the information set out in [PAN 50 controlling the environmental effects of surface mineral workings](#) (Paragraph 53) and, where relevant, in relation to groundwater (Paragraph 52).
 - 7.2 Details of the proposed depth of the excavation compared to the actual topography, the proposed restoration profile, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement should be submitted. The reinstatement of borrow pits can raise significant waste management issues and it is essential that any proposals are discussed with our regulatory teams as part of the development of the scheme to ensure that such proposals are feasible in terms of cost and regulatory requirements.
8. Air quality
 - 8.1 The local authority is the responsible authority for local air quality management under the Environment Act 1995; however we recommend that this development proposal is assessed alongside other developments that are also likely to contribute to an increase in road traffic. This increase will exacerbate local air pollution and noise issues, particularly at busy junctions and controlled crossing points. Consideration should therefore be given to the cumulative impact of all development in the local area in the ES or supporting information. Further guidance regarding these issues is provided in NSCA guidance (2006) entitled [Development Control: Planning for Air Quality](#).
 - 8.2 Excavation works, particularly through drilling and blasting, may cause nuisance to adjacent land users due to the generation of dust and noise. Comments from the local authority environmental health officers should be sought on the potential nuisance to adjacent land users during the construction and decommissioning phases of the project.
9. Pollution prevention and environmental management
 - 9.1 We request that a dedicated pollution prevention section is provided in the ES. All potential pollution risks associated with the proposals and all aspects of site work that might impact on the environment should be systematically identified, as well as preventative measures and mitigation. This information is necessary to assess the environmental impact of the proposals prior to determination. This information can also usefully provide the basis for a more detailed environmental management plan and construction method statements, which may be requested as planning conditions or required under environmental regulation.

- 9.2 The dedicated pollution prevention section should incorporate the principles of all proposed pollution prevention and mitigation measures for all construction elements potentially capable of giving rise to pollution during all phases of construction, reinstatement after construction and final site decommissioning. This approach provides a useful link between the principles of development which need to be outlined at the early stages of the project and the method statements which are usually produced following award of contract (just before development commences). Further guidance on producing an environmental management plan can be found on our [website](#).
10. Flood Risk
- 10.1 The site should be assessed for flood risk from all sources in line with Scottish Planning Policy (Paragraphs 196-211). In particular any proposed buildings such as the substation should be located outwith the functional flood plain.
- 10.2 Further information and advice can be sought from your Local Authority technical or engineering services department, [Scottish Water](#) and from our [website](#). Our [Indicative River & Coastal Flood Map \(Scotland\)](#) is also available to view online. If a flood risk is identified then a flood risk assessment (FRA) should be carried out following the guidance set out in the Annex to the [SEPA Planning Authority flood risk protocol](#). Our [Technical flood risk guidance for stakeholders](#) outlines the information we require to be submitted as part of a FRA, and methodologies that may be appropriate for hydrological and hydraulic modelling. Further guidance on assessing flood risk and planning advice can be found at our [website](#).
11. Marine ecological interests
- 11.1 A baseline assessment of existing intertidal and subtidal habitats and species. This should include any UK Biodiversity Action Plan habitats and species e.g. maerl, sea pens, eel grass, horse mussels (www.ukbap.org.uk/UKPlans.aspx?ID=35). Developers will then be able to ascertain if they are required to supplement or quantify the available data with in-field surveys.
- 11.2 We also recommend information on how the development will contribute to sustainable development. Opportunities to enhance marine habitats in line with Water Framework Directive and The Nature Conservation (Scotland) Act 2004 objectives and Scottish Planning Policy guidance should be explored. Examples might include coastal realignment, the incorporation of naturalistic features in the design of shoreline works or planting with salt tolerant species. These could be used as examples of best practice and demonstration sites under SEPA's Habitat Enhancement Initiative (HEI).
- 11.3 It is important that during the construction phase good working practice is adopted and that habitat damage is kept to a minimum and within defined acceptable parameters and controlled through an environmental management plan.

11.4 Advice on designated sites and European Protected Species should be sought from SNH. For marine and transitional Special Areas of Conservation (SAC) and Special Protected Areas (SPA), these are WFD Protected Areas. Therefore, their objectives are also RBMP objectives. In this case, SNH may contact us for input on the consultation.

12. Regulatory advice

12.1 Details of regulatory requirements and good practice advice for the applicant can be found on our website at www.sepa.org.uk/planning.aspx. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the Environmental Protection and Improvement Team in your local SEPA office at:

Carr's Corner Industrial Estate, Lochybridge, Fort William PH33 6TL Tel:
01397 704426

The Highland Council

Highland Council request that any Environmental Statement (ES) submitted in support of an application for development should be presented as three distinct elements including a full Description of the Development, Significant Effects on the Environment and a Schedule of Mitigation – summarising a full list of what is being offered (this helps with discharging of conditions, when approved, etc.)

The Council will consider any application as if it was a planning application which requires to be considered on the basis of the current the Development Plan of Highland Council including:-

- The approved Structure Plan
- West Highland and Islands Local Plan (WHILP).
- Emerging Plans including the Highland Wide Development Plan expected publication in August 2010
- Other relevant policy documents including Highland Renewable Energy Strategy

The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction operation and decommissioning of the development.

With regard to the description of the development for EIA purposes. While the consultation looks comprehensive and extensive there are a number of points which may need clarified: -

Generator: - It is noted that fabrication will be off site and the unit towed into position. Is this the completed unit or will the basic model be towed to near the site and then the extras fitted? Will these extras be at a significant nearby harbour or from the attendant tug or from some nearby shore station? If the latter we will need details of location, delivery weight statistics and proposals which may then lead onto traffic management requirements etc.

Servicing: - No real reference has been made on how this will be undertaken i.e. from a nearby shore station if so where and will that require planning permission or from some nearer established significant harbour again if the former we may require details of how that will operate?

Generator Building: - Re any cables from the unit to be laid on the seabed. We require details of the trenching etc once the location of the station has been determined. We will need details of the generating station which will obviously be the subject of a separate planning application. It would be useful to have the location, construction type and infrastructure detail with an estimated number of loads which will be accessing the premises during the construction phase. Depending on this information it will highlight if we need to consider a section 96 agreement under the Roads (Scotland) Act for access to this remote location.

Grid Connection It is not clear as to the extent of the required grid connection and whether this will be overland or underground. I strongly recommend that it forms part of this submission. This information could impact significantly on our interests with particular regard to access during construction for materials i.e. concrete, is it poles or is it towers; will they have a set down base and use helicopters? This requires to be fully understood / sorted out as part of this submission.

Identify all public roads affected by the development. In addition to transportation of all abnormal loads & vehicles (delivery of components) this should also include routes to be used by local suppliers and staff. It is expected that the developer submits a preferred access route for the development. All other access route options should be provided, having been investigated in order to establish their feasibility. This should clearly identify the pros and cons of all the route options and therefore provide a logical selection process to arrive at a preferred route.

Establish current condition of the roads. This work which should be undertaken by a consulting engineer acceptable to the Council and will involve an engineering appraisal of the routes including the following:

- Assessment of structural strength of carriageway including construction depths and road formation where this is likely to be significant in respect of proposed impacts, including non-destructive testing and sampling as required.
- Road surface condition and profile
- Assessment of structures and any weight restrictions
- Road widths, vertical and horizontal alignment and provision of passing places
- Details of adjacent communities

Determine the traffic generation and distribution of the proposals throughout the construction and operation periods to provide accurate data resulting from the proposed development including: -

- Nos. of light and heavy vehicles including staff travel
- Abnormal loads
- Duration of works
- Current traffic flows including use by public transport services, school buses, refuse vehicles, commercial users, pedestrians, cyclists and equestrians.
- Impacts of proposed traffic including
- Impacts on carriageway, structures, verges etc.
- Impacts on other road users
- Impacts on adjacent communities

Swept path and gradient analysis where it is envisaged that transportation of traffic could be problematic

Provision of Trial Runs to be carried out in order to prove the route is achievable and/or to establish the extent of works required to facilitate transportation

Cumulative impacts with other developments in progress and committed developments including other Renewable Energy projects.

Proposed mitigation measures to address impacts identified above including

- Carriageway strengthening
- Strengthening of bridges and culverts
- Carriageway widening and/or edge strengthening
- Provision of passing places
- Road safety measures
- Traffic management including measures to be taken to ensure that development traffic does not use routes other than the approved routes.
- Details of residual effects.

Photographic Images

Should the application be supported by photographic images attention is drawn to the advice and guidance offered by Highland Council for developments within the area of that Authority. Visualisation Standards advice see web link: -

<http://www.highland.gov.uk/yourenvironment/planning/energyplanning/renewableenergy/>

Submissions generally: -

Application which are submitted on-line or in electronic form on CD must ensure that files are presented in manageable a sizes >3MB and in widely used formats, JPEG files / acrobat adobe and pdf. Developers should be aware that Environmental Statements can be placed on the Council website therefore submissions in a user-friendly PDF format are strongly recommended.

Non electronic applications will require additional copies of all plans and documents to support your application which recognise the expected consultations to be undertaken by the Council. The final number of plans and documents and the arrangements for submitting these documents should be agreed with the Planning and Development Service.

You will be aware that the submission of an ES requires the preparation of a non-technical summary of the information provided. Such documents help provide an easy to read summary of the key elements of the project and its expected environmental impact. Such submissions should not be used to promote or advertise the development. The Council encourages the development of the full ES report in a concise, easy to read and understandable style, technical (with explanations) but free of jargon. A description of the methodology used in assessing all impacts should be included.

The Council and other statutory consultees also welcome from applicant's an indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant or appellant in compiling the required information. Such honest approaches help authorities understand that all best practical steps may have been undertaken to examine a particular issue, rather than it being regard as an oversight by the applicant.

Finally it is considered good practice to set out within the ES the qualifications and experience of all those involved in collating, assessing or presenting technical information.

SNH Comments

POSITION STATEMENT

In principle SNH supports the development of marine renewable energy devices where sensitively designed and sited (SNH Policy Statement 04/01). In this case we advise that while there is no reason in principle why development should not take place in Kyle Rhea, the European importance of the site means that, in order to do so, there is a requirement for the developer to demonstrate beyond reasonable scientific doubt that the proposals will not adversely affect the designated features. If we consider that the developer has failed to make that case we would be likely to object to the application. It follows that we expect the EIA process for this application to be particularly rigorous.

The applicant has produced a useful and detailed assessment of the potential impacts of the proposal and the issues that the EIA needs to cover. However the scoping document contains a number of internal inconsistencies and generalisations which have not been backed up by scientific references which gives us cause for concern. We do not agree with all of the conclusions in table 6.1 and can provide specific comments if requested. Key issues are detailed below.

BACKGROUND

The proposal is to construct four tidal turbines in Kyle Rhea, each rated at 1.2MW. Each device has two 16-20m diameter rotors mounted on a cross-beam which is in turn mounted on a tubular tower. The tower extends 10m above the surface at mean sea level and is secured to the seabed by four piles. Ancillary development, including a substation and electrical cabling, is also proposed.

KEY SCOPING ISSUES

The key issues that we consider to be of high significance and that we expect the developers to give the most thorough attention are:

- Lochs Duich, Long and Aish Reefs Special Area of Conservation (SAC) and the Kinloch and Kyleakin Hills SAC and Site of Special Scientific Interest (SSSI).
- European Protected Species (EPS), particularly cetaceans and otters.
- Cumulative impacts on protected sites and EPS.

However, there are additional issues which are noted in the main text below.

We also recommend that the EIA includes all of the terrestrial aspects of the proposals, such as grid connection, sub-station, construction compound, laydown areas and access tracks because these may also be key aspects, particularly if development takes place within Kinloch and Kyleakin Hills SAC.

We have recently updated our Service Level Statement which explains how we will engage in the development of renewable energy projects:

<http://www.snh.gov.uk/planning-anddevelopment/renewable-energy/our-approach-to-renewables/managing-applications/>

DETAILED COMMENTS

a) European designated sites

The list of sites of European importance in table 4.1 is inconsistent and incomplete (for example Canna and Sanday SPA is not listed and most of the features of Rum SPA have been omitted, although they are listed in section 4.3.1). We recommend that the designated sites that are considered is based upon the biology of the qualifying interests (e.g. foraging ranges of seabirds). While it is important to consider all such sites, it is likely that some may be scoped out following initial assessment. The sites most likely to be impacted on, and therefore where most effort should be directed are Lochs Duich Long and Alsh SAC and Kinloch and Kyleakin Hills SAC. The legislative requirements for European sites are provided in Annex 1. The Conservation Objectives for these sites can be found in Annex 2 and Annex 3 respectively. The ES should provide sufficient detail to inform any future appropriate assessment which would be carried out by Marine Scotland as competent authority.

Lochs Duich, Long and Alsh Reefs Special Area of Conservation

Lochs Duich, Long and Alsh SAC is designated for its reef habitat. The entire study area lies within the SAC. The majority of the habitats within Kyle Rhea are predicted to be qualifying reef habitat, amongst which are some of the most interesting and diverse habitats within the SAC (described in section 4.2.1 of the scoping document).

The applicant proposes to carry out acoustic seabed mapping to develop indicative biotope distribution maps. A baseline survey is available for the SAC: Entec (2000) Broad scale survey and mapping of the seabed and shore habitats and biota: Lochs Duich Long and Alsh pSAC. Scottish Natural Heritage Commissioned Report F97PA05 (unpublished). This includes shore type maps and predictive mapping of benthic life forms. It provides useful broad scale information but the underlying data is not sufficiently detailed to allow accurate biotope mapping. We agree that more detailed development specific surveys will be required. We also understand that Marine Scotland is planning to visit, or has recently visited, Kyle Rhea to undertake survey work of the seabed.

We agree that detailed surveys of the benthic habitats around the proposed device locations will be a critical part of the EIA and support proposals to collect seasonal data. The applicant has suggested using drop down video and/or diver surveys to provide detailed data; we recommend that ROV video transects and still photography using a weighted drop frame also be considered. We look forward to discussing the detail of the survey techniques with the applicant and Marine Scotland. It would also be useful to schedule in a review after early analysis in case further work is required.

It is worth highlighting that the reef feature includes rocky, stony and biogenic reef. JNCC have recently clarified what constitutes stony reef: Irving, R, (2009), The identification of the main characteristics of stony reef habitats under the Habitats Directive, JNCC Report 432, and ISSN 0963 8091 available via the JNCC website at:

<http://www.jncc.gov.uk/page-5023>

Most of the aspects that the EIA should consider are detailed in the main text (section 4.2.2) and 'key potential effects' table (section 6.1), but there are a number of inconsistencies between these sections. We agree that the aspects in section 4.2.2 should be given particular attention. In addition particular attention should be given to the site's conservation objectives and the following aspects should also be considered:

- Damage/disturbance caused by boat moorings, cables and other ancillary aspects;
- Consideration of hydrodynamic changes;
- Accidental release of hydraulic fluids and potential pollutants including the use of anti-foulants and sacrificial anodes.

In principle, we support proposals for directional drilling for cables because this offers an opportunity to minimise the benthic impacts of cable laying. Providing best practise is followed and a pollution prevention package is drawn up, the effects from potential pollutants may be minimised. We advise that environmental practices and management for hydraulic fluids and potential pollutants are detailed within the ES.

At this early stage, given the details provided, we consider this proposal is likely to have a significant effect on the qualifying interest (reef habitat) of the site. As a consequence we advise that it is likely that an appropriate assessment will be required to be carried out by Marine Scotland as competent authority in view of the site's conservation objectives for its qualifying interest. We advise that the following aspects should be given particular attention:

- Smothering effects caused by installation of the array;
- Direct and indirect loss of reef habitat (and possible recovery);
- Consideration of changes to the tidal regime;
- Effects on community composition and species associated with the reef;
- Accidental release of hydraulic fluids and potential pollutants.

Kinloch and Kyleakin Hills Special Area of Conservation

Kinloch and Kyleakin Hills SAC includes all ground to the west of the study area, extending to Mean Low Water Springs. It is designated for its upland and woodland habitats and otters. The type, location and extent of the land-based parts of the proposed development have not yet been decided and may be located within or close to this SAC, having the potential to impact on the site. The coastal area of the SAC within/adjacent to the study area is primarily designated for its otters, although it also supports patches of qualifying woodland and heathland habitats. The otters forage outwith this SAC and have the potential to be affected by the marine aspects of the development.

SNH has detailed baseline data on otters within the SAC: Cottis, R (2000) Kinloch otter *Lutra lutra* survey. SNH commissioned Report F00/LD/19 (unpublished report) and will make this information available to the developer on request.

Otter use of areas can vary considerably over time and therefore there will be a need to update the above survey in areas where otters maybe affected. We advise that coastal areas within 250m of significant disturbance (such as the substation, construction compounds, and Seagen devices) should be resurveyed by an experienced otter surveyor in order to identify the location and level of activity at breeding and resting sites. Paths, freshwater pools and spraint sites should also be identified. Further information on survey methodologies for otters is available in the SNH publication "Otters and Development" as listed in section 4.4.2 of the scoping document. The ES should also identify and map suitable otter foraging habitat - otters are known to forage in depths of 10-15m of water, and the scoping report states that otters "are known to cross the Kyle".

At this early stage, given the details provided, our view is that this proposal is likely to

have a significant effect on the qualifying interest (otters) of the site. As a consequence we advise that it is likely that an appropriate assessment will be required to be carried out by Marine Scotland.

In assessing the impact of the proposals, particular attention should be given to the site's conservation objectives and the following aspects should be considered in detail and may form the basis for an appropriate assessment:

- Disturbance to otters caused by the installation, maintenance, operation and decommissioning of the project;
- Damage to otter breeding and resting sites from the terrestrial development;
- Direct and indirect loss of otter foraging habitat and prey species;
- Collision risk to otters caused by the device (we suggest the assessment in section 4.4.2 should be reconsidered).

It is unclear whether the terrestrial habitats within the SAC will be affected by the proposal and in principle it would be desirable if terrestrial development occurred outwith the SAC. If development is proposed within the SAC we have copies of an NVC survey which was commissioned by Forestry Commission Scotland. Averis, B & James, P (2002). A Botanical assessment for the Kinloch Hills Wilderness Forest Project, Isle of Skye, Scotland. FCS commissioned report contract 02/17 (unpublished report). This should be used to inform the siting of any onshore developments.

b) European Protected Species

All species of European Protected Species (EPS) are protected under the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) and the legislative requirements for EPS are provided in Annex 4.

Cetaceans

Section 4.5 of the scoping document covers marine mammals including cetaceans. It contains a useful summary of the cetacean species present in the area but the 'identification of key issues' tends to focus on seals rather than cetaceans. We advise that 2 years' data collection is likely to be required in this case because the proposal is an array of 4 devices (each with two rotors), and because they are proposed within the Kyle Rhea narrows which is known to be used by cetaceans, where options for avoidance are restricted, and where cetacean usage is likely to vary considerably between years. However, we consider that reviews are an important part of the data collection process and advise that the developer should carry out a review of the techniques at 3 months and data at 12 months. Detailed data on species present, group make-up, temporal and spatial distribution and behaviour is necessary to inform siting, mitigation and licensing.

There is no standard method for collection of data on cetaceans (the guidance that Royal Haskoning is currently writing for SNH has not been completed or consulted on) and although the applicant has provided some details of the proposed methodology there is not enough detail to allow us to advise on its appropriateness. We agree that vantage point watches are likely to be a key component, but the number and location should be determined by the visibility of the study area. Use of C or T pods should also be considered, particularly to address potential data gaps when the sea state is unsuitable for VP watches.

We agree that as well as cetaceans the applicant should also record birds, seals and basking sharks. We look forward to further dialogue with the applicant and Marine Scotland regarding the methodology. In addition to disturbance, noise and collision aspects listed in section 4.5.2 the assessment should also consider pollution. Cumulative aspects will also be important.

When considering the potential impacts of noise on cetaceans and other marine mammals we recommend the applicant refer to the following references:

- Marine Mammals and Noise, Richardson et al 1995 Academic Press
- Marine Mammal Noise Exposure Criteria: Initial Scientific recommendations, Southall et al 2007, Aquatic Mammals Vol 33, Issue 4

Otters

As well as being a qualifying feature of Kinloch and Kyleakin Hills SAC, otters are also EPS. SNH does not have any survey data for the mainland side of the narrows but otters are known to be present. As stated above we advise that all areas within 250m of any areas of significant disturbance should be surveyed for otters and assessed in the same manner as the SAC.

Bats/Turtles/Great Crested Newt

All species of bats are EPS and consideration should be given to whether a bat survey is required in relation to the terrestrial development aspects as part of the proposed walkover surveys. Marine turtles and Great Crested Newts are also EPS however we advise that it is unlikely that they will be adversely affected by this development.

c) Cumulative Impact Assessment

A cumulative impact assessment is likely to be required as part of the EIA process and would best be achieved by collaboration between known marine developers in Kyle Rhea. We recommend that a discussion should take place between Marine Scotland, the relevant developers and stakeholders to agree the topics to be covered and methodology; we would be happy to contribute to that discussion.

d) Nationally designated sites

Kinloch and Kyleakin Hills (Monadh Chaol Acainn is Cheann Loch) SSSI is notified for similar features as the SAC but with the addition of lichens and bryophytes. The SSSI boundary is contiguous with the boundary of Kinloch and Kyleakin Hills SAC. This designation does not present any additional issues to marine/intertidal aspects of this proposal which are not already covered in the SAC section above. If terrestrial development is proposed within the SSSI then these additional interests should also be considered.

Other SSSIs and GCR sites are listed in the scoping document and we agree that no further consideration is required in the ES.

e) Local and regional interests

Birds

The ornithological data currently available for this area is sparse. This is a new technology, the impacts of which are poorly understood and the proposed tidal stream development could impact birds in the following ways:

- indirect loss of habitat through displacement/disturbance if birds avoid the devices and surrounding area due to construction, operation and maintenance;
- death of diving birds through collision or interaction with the devices;
- potential contamination by leakage of hydraulic fluids and pollutants.

Should MCT seek to deploy similar devices elsewhere, it will be in their interest to be able to refer to monitoring of this development to support any claims regarding the significance or otherwise of such impacts upon birds. Such evidence could inform and may simplify the consenting process for any such developments. We therefore recommend that it would be useful and to MCT's own benefit to collect additional bird data.

The methods proposed have not been agreed with SNH and insufficient detail has been provided to allow us to advise on their appropriateness. The survey should record bird species, numbers of each species, and behavioural data in order to characterise the use of the site. Particular attention should be paid to diving behaviour and where and when (state and flow speed of tide) it occurs and for which species. These data may help to inform any potential collision risk to birds. We would be happy to provide advice on survey methodology (which could be integrated with the marine mammal surveys).

Additional consideration needs to be given to:

- potential collisions with above surface structures;
- disturbance arising from operation and maintenance;
- lighting effects;
- indirect effects (e.g. reef effects), both positive and negative.

Seals

Sea Mammal Research Unit reports from 2001 and 2008 (Survey of harbour seals on the west and east coast of Scotland (2001) & Surveys of harbour (common) seals around Scotland (August 2008)) indicates that the nearest harbour seal haul-out is at the north end of Kyle Rhea, which is in close proximity to the proposed development. Furthermore, they are known to forage in Kyle Rhea, utilise the whole water column and are inquisitive animals. It is therefore possible that seals may interact with the proposed tidal stream device at this location.

We advise that the applicant establishes the distribution and usage throughout the year of the proposed deployment area by harbour and grey seals as part of the marine mammal surveys. In particular, consideration of whether this area is important as a feeding area for either species. This data should be used to make an assessment of any potential adverse impacts. It would be helpful to interpret the significance of those impacts in the context of the recently published Special Committee On Seals advice on the management of seal populations: <http://www.smru.st-and.ac.uk/documents/341.pdf> We do not consider aerial surveys and tagging of seals (as proposed in section 4.5.3) to be necessary in this case.

Basking sharks

Basking sharks are known to use the area and are protected against reckless disturbance under Schedule 5 of the Wildlife and Countryside Act (1981) (as amended) and the Nature Conservation (Scotland) Act 2004. They are also listed under CITES Appendix III in UK waters.

We recommend that distribution and use of the area by basking sharks should be incorporated within the marine mammal surveys, and an assessment made of any potential adverse impacts.

Badgers

There are no recent records of badgers on Skye but they do occur on the mainland. Therefore we agree that walkover surveys to confirm presence/absence of badgers would be required for terrestrial development on the mainland.

Terrestrial habitats

We agree that a phase 1 habitat survey would be sufficient for areas outside the SAC. Surveying areas that may be directly impacted by the proposals, such as the footprint of onshore infrastructure and laydown areas, would be sufficient.

Landscape/seascape and visual impact

We agree that the proposal will not affect any formally designated sites of national or regional landscape importance. However, the proposed turbines will rise 10m from the water and will probably be marked to increase their visibility. These are industrial structures in a relatively remote rural location and the Kylerhea ferry is an important tourist route. The ancillary development including substation, access tracks, power lines and construction compound all have the potential to add to the landscape and visual impact.

We disagree that a review of existing documents will be sufficient and recommend that a seascape, landscape and visual impact assessment be carried out by a chartered landscape architect (preferably a team of two). This should be a focussed assessment but should generally follow the guidance and advice set out in the "Guidelines for Landscape and Visual Impact Assessment" (LI-IEEMA, 2002) and the Guidance on Landscape/Seascape Capacity for Aquaculture. Natural Heritage Management, SNH (2008) which is available at:

<http://www.snh.org.uk/pdfs/publications/heritagemanagement/aquaculture.pdf>.

The zone of visual impact should be calculated and representative viewpoints selected accordingly. This assessment should be used to inform the siting and design of the development, particularly the land-based aspects. Noise and lighting should also be considered as part of this assessment. SNH is in the process of reviewing both our own guidance and that commissioned by others in order to draw up a list of recommendations for carrying out seascape, landscape and visual assessment in relation to marine renewables. In advance of that being available we can provide further detailed advice on request.

f) Proposed development details

The ES should provide details on the rationale for the array location, cable routes, substation location and the alternatives considered. We would also expect to see the following details:

- Details of type, amounts and containment of any oils or fluids to be used and details of any pollution prevention protocols.
- Speed of the blades and any other moving parts.
- Frequencies and levels of noise associated with the operation of the device.
- Full details of cable installation.
- Site preparation including details on any seabed levelling or clearance at the device site and cable route, together with size and depth of proposed piling, method used and a calculation of the type, level and duration of the noise expected.
- The amount and type of maintenance and how this will be undertaken (number/type of vessels, number of days, etc).
- Any temporary construction compounds, laydown areas, access tracks, access points and power cable routes.
- Lighting and marking of the turbines.
- Details of the construction process and timing including duration of stages.

g) List of stakeholders

The developer has asked for feedback on the list of stakeholders. We advise that recreational stakeholders should also be contacted including the Scottish Canoe

Association and Inverness Diving Club. The Skye and Lochalsh Environment Forum would also be a useful contact.

RSPB Comments

Kyle Rhea provides habitat for a variety of bird species, although numbers are thought to be generally low: those potentially most at risk are correctly identified in Para 4.3.2 as diving birds. These are liable to potential collision, disturbance and displacement from the development. RSPB Scotland advises that the assessment should consider how this proposal would be likely to impact upon these species at different times of the year – since their numbers vary seasonally. Those species most likely to be impacted would include cormorant, shag, eider which have all been reported from the otter hide at Kyle Rhea but other species including auks and divers are also possible.

Few data exist on the actual usage & densities of diving birds within Kyle Rhea and we advise that a comprehensive survey be undertaken as part of the EIA process. Recording bird locations and behaviour, including diving duration and approximate distance covered, through surface-based vantage point survey work could provide some indication of preferred feeding areas. Sub-surface monitoring is more difficult but may be required to assess the potential of collision, should usage of the area by diving birds be greater than suspected. Reference should be made to findings at Strangford Lough where a single device of the type proposed was located although account must be paid to the different species, bathymetry, tidal regime, the fact that four turbines, and not one are proposed at Kyle Rhea, etc.

RSPB may hold some data on bird life in the Kylerhea area, which may be accessed through formal application to this email address. In addition, contact should be made with the Highland bird recorder, Kevin Davies (14 Forsyth Place, Cromarty, Ross-shire, IV11 8XW **E-mail** keviandkaren@hotmail.com for additional bird records. Reference should also be made to the Scottish Marine Renewables SEA although this lacks the fine detail required for the EIA.

We note that the scoping report mentions the possibility of collisions with mammals, fish and birds and recognise that turbines within a water medium have very different physical parameters in comparison to wind-turbines, as do the birds that may collide with them. The concept of comparing the rotor speed of a sea-turbine with the usage of the underwater environment by a diving bird is currently a novel one. It is a concept which, as for other marine organisms, is intimately tied up with a species behaviour/response to a number of variables, principle amongst these must be marine currents & distribution of food resource within an area, which will determine their diving depth, location and period. Needless to say, underwater turbines will be a totally novel structures to organisms using the marine environment and how they react to them is not known. Although they will emit some noise, their visibility will alter depending on both the quality of visibility within the water column & behavioural factors such as birds/cetaceans awareness of their surroundings being reduced when pursuing prey.

It is noted that in considering potential impacts from contamination via leakage from the structure that no mention is made of the likely quantities of oil/anti-fouling and other potential contaminants contained within a structure (nacelle & base). Yet, in table 8 its potential effects are assessed as unlikely to be significant. We would advise that this should be kept as significance unknown at this stage and further consideration given to its impacts based on the escape of the full quantities likely to be contained within one structure. Even a small release of oil can impact on seabirds and anti fouling material could have a localised effect dependant on rate of dilution. Fuller consideration needs to be given to the anti-fouling technique employed for the blades/nacelle/tower – i.e. will it be coated with anti-fouling agent and then left for marine organisms to colonise with regular maintenance, or will a spray type system be used to keep structures free of growth?

Whilst the prime consideration is likely to be the potential for damage to the SAC, which is acknowledged in the Scoping report, it is essential that the full range of designated sites which may be affected is considered. Indeed, the tests set out by the Conservation (Natural habitats &c.) Regulations 1994 (as amended) will require that the absence of an adverse effect on site integrity be ruled out, beyond reasonable scientific doubt, for all Natura sites for which a significant effect is likely. Table 4.1: Summary of designated sites omits Canna & Sanday SPA (qualifying features Breeding Seabird Assemblage, breeding guillemot, herring gull, puffin and shag) which is hardly any more distant than Rum. For Rum SPA, the qualifying features list in that table omits breeding seabird assemblage and guillemot, kittiwake and Manx shearwater, although such details are included in Para 4.3.1. Table 4.1 needs thorough checking for other potential omissions.

The report seeks to scope out some issues prematurely, without the benefit of adequate data on which to do so. It seems likely that surveys will be necessary to confirm species present in the area and that until that step is taken, loss of foraging habitat/food availability, e.g. indirectly via effects of noise on prey species, cannot be ruled out, albeit they will most likely be of a temporary nature and unlikely to lead to a significant impact. However, unlikely significance of effect is not the same as no significant effect and I doubt the data are available to conclude the latter at this stage.

Species identified so far seem relevant, although scoping out terns at this stage may or may not be appropriate, subject to confirmation of the tern species present, given the minimum of 3m beneath the water surface for the rotors.

The claim that birds use vision for prey capture and therefore will see and so avoid underwater turbines may be flawed as their field of vision may be short-range, and focus on prey may lead to failure to "see" or react to a turbine (G. Martin pers. comm), e.g. cormorants it is suggested use close-quarter prey detection or flush-foraging, rather than pursuit (Martin, G.R., White, C. R. & Butler, P.J. 2008. Vision and the foraging technique of Great Cormorants *Phalacrocorax carbo*: pursuit or close-quarter foraging? *Ibis* 150: 485-494.).

This is a novel technology with very little known about potential impacts so it will be important to conduct a thorough EIA, collecting baseline data to inform this process, as necessary, and to monitor the project post-construction.

Whilst the actual timing of installation (estimated to last six months) is likely to be determined largely by factors such as weather, availability of equipment etc, consideration should be given to whether there is any necessity to avoid certain periods to minimise disturbance to important wildlife at vulnerable periods

Maritime & Coastguard Agency

Navigation

Section 5.3 Shipping and Navigation: On the information provided we do not agree with the subsequent assessment in Table 6.1 b for Shipping and Navigation. For construction and installation we would consider the "disruption to search and rescue" as red with "increased journey time" and "collision with array as orange"

A comprehensive Preliminary Hazard Analysis, Vessel Traffic Study and Navigational Risk Assessment will be expected to fully address these issues.

West Highland Anchorages and Moorings

Kyle Rhea is a narrow passage and subject to strong tides which is exactly why one might wish to utilise it or the generation of power. Indeed tides run at up to 8 knots. We believe this proposal requires very careful examination. The positioning of the 4 turbines, if the proposal goes ahead, will be critical.

Small vessels require to navigate this passage with care. The strength of the tidal flow is such that small vessels cannot always maintain a steady course due to current eddies and wind strength. Given the minimum width of the channel-about 1.5 cables-their room for manoeuvre is severely constrained and, if a larger vessel is encountered during passage, great care has to be exercised to navigate safely. While most small craft use the tide to their advantage and transit with the tide, larger vessels usually have enough power to ignore this constraint, if needed. The clearance of 3m above the blades may be just adequate for small craft but it is not adequate for larger vessels. However, smaller vessels with a lifting keel would be in difficulty. The survey period chosen of 14 days in March is inadequate as recreational traffic does not build up till end April/early May and continues to end September. AIS is only fitted to vessels over 300t and is not a guide to recreational use. While it is true that local recreational craft may follow an erratic course and return to harbour the majority of summer recreational traffic is on passage north or south to save time rounding Skye. We contend that much more study of traffic patterns and examination of the effect of currents on the passage of small craft is required, taking into account the proposed siting of these turbines.

NATS (EN Route) Ltd.

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Limited has no safeguarding objections to this proposal. Please be aware that this response applies specifically to the above consultation based on the information supplied at the time of this application. If any changes are proposed to the information supplied to NERL in regard to this application (including the installation of wind turbines) which become the basis of a full, revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Northern Lighthouse Board

We would advise that the following should be considered as our initial response to the Scoping Opinion request and that any formal recommendations for lighting and marking will be given through the Coast Protection Act 1949 – Section 34 process, and will be based on IALA Recommendation O-139. All navigational marking and lighting of the site or its associated marine infrastructure will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment.

With regard to the consultation and the scope of assessment, we would only comment on that part relating to Shipping and Navigational Safety contained within several sections of the consultation document. We also note that Notices to Mariners, Radio Navigation Warnings and publication in appropriate bulletins will be required stating the nature and timescale of any works carried out in the marine environment relating to this project due to the international use of this area of UK sea. The warnings should be promulgated before any commencement of any installation, operation, maintenance and decommissioning periods.

We note that the Scoping document makes a number of assumptions regarding Shipping and Navigation, which we do not consider to be a full and accurate depiction of these activities:

- section 5.3.1 refers to very light traffic volumes, presumably based on AIS data, without noting that AIS is generally only fitted to larger vessels.
- section 5.2 dismisses the risk to leisure traffic, without noting that Kyle Rhea is a significant transit route for such craft, whose ability to manoeuvre in strong tidal conditions is very limited.
- section 5.2 also refers to a local ferry operating June-August, when it actually operates April-October. The ferry also has restricted manoeuvrability, and will be set into the optimum array area by any North-going tide during transit.

- section 5.3.2 notes that the exclusion of vessels from Kyle Rhea during construction would cause 'increased journey times and distances'. In many cases, however, closure of Kyle Rhea would render journeys impractical in view of the far greater exposure to adverse weather in the Minch.
- section 5.3.2 also predetermines the outcome of the NRA by assessing that 'collision of vessels with the installed array is unlikely'.
- section 5.5.1 notes that no naval routes are shown through Kyle Rhea, however we know that the route is used by naval and auxiliary vessels.

We do not agree with these statements. We consider that any increase in hazard to surface navigation in a constrained area with strong tidal flows is unwise, and requires a robust NRA that reflects such risk. In the absence of such an assessment, we would not consider this project to be viable. We note that the optimum position for installation is likely to be in the centre of this constrained channel and that installation, maintenance and decommissioning will all significantly further impede the channel. We would stress the importance of Safety of Life, which must be given due consideration in any development.

We would anticipate that a Method Statement would form part of the CPA Application, and note that any devices deployed either as part of your technology assessment, permanent installation and eventual de-commissioning will require careful planning to minimise the hazards posed by any permanent moorings, or temporary moorings deployed during any installation and de-commissioning activities.

The requirement to install cables to shore would need separate comment contained within the Navigational Risk Assessment. We would ask that the Hydrographic Office be informed of the route and landfall location in order that the Admiralty Chart is updated to give information of the installation.

We note that the array will certainly have an impact on the existing navigation light at Kyle Rhea Lighthouse as the sectors may become obscured by the structures. We would therefore welcome any early opportunity to meet with the developers to discuss the navigational impact and any required marking.

The Statutory Sanction of the Commissioners of Northern Lighthouses must be sought to deploy, exhibit and subsequently remove any proposed navigational lighting or buoy stations required within any conditions of the consent to establish the Marine Current Turbine array or for any preparatory work.

Fisheries Committee

The scheme is out with the Fisheries (Electricity) Committee remit and they will not be submitting any comments.

RYA Scotland

Section 5.3 of the Scoping report clearly identifies the fact that you have included recreational navigation as an issue to be included into the Environmental Statement. The RYA is encouraged by this recognition and has a few further points that should be considered when gathering additional data for the ES.

In section 5.3.1, the report states that MCT has recently commissioned vessel surveys for the study area and that *'During a 14 day period in March 2010, 94 vessel tracks were recorded'*. The RYA feels that this survey period provides an inadequate representation of recreational vessel movements in the area as March is very early in the season when many recreational vessels will still be laid up after the winter. The RYA would therefore expect another survey to be carried out during the high season, May to September, to gauge the full extent of vessel numbers in Kyle Rhea.

Also in section 5.3.1, the report states, when referring to the types of recreational vessels that use the area, that *'such craft will not normally be undertaking point-to-point passages but will be on out and return activities and may appear to be sailing in random direction...'* While it is true that local recreational craft may follow an erratic course and then return to harbour, the RYA would like to make the developers aware that the majority of summer recreational traffic in the area is on a passage north or south for safety reasons and to save time rounding Skye.

In section 5.3.2 of the report it is assumed that *'the minimum depth of 3m will allow passage of small vessels, of the size expected to use a narrow strait, directly over the rotors.'* The RYA believes that the threat to recreational yachts by underwater turbine blades can be minimised by specifying a **minimum underwater clearance of 3.5m below mean low water springs**.

The RYA has put together a position statement regarding the development of offshore renewable energy developments and I have enclosed a copy of this for your information. All the points mentioned above are expanded on in more detail within the statement. The RYA's concerns regarding recreational boating and offshore energy developments are included in this statement and we would expect these to be addressed in an ES for a project such as this.

In addition to the position statement, the RYA has also produced the UK Coastal Atlas of Recreational Boating. The Atlas contains maps of recreational cruising routes, racing and sailing areas as well as locations of RYA affiliated clubs, training centres and also marinas (independent) around the UK. I see that the data from the Atlas has been referred to within the Shipping and Navigation section of the Scoping report. The RYA is encouraged that the GIS data is being considered at this early stage and as with the position statement, would expect this information to also be taken into account and represented within the ES.

Additional detailed information for the ES can also be provided by RYA Scotland through its network of local experts.

In summary the RYA's concerns with offshore energy developments and recreational boating relate to:

1. Navigational safety
 - Collision risk
 - Risk management and emergency response
 - Marking and lighting
 - Effect on small craft navigational and communication equipment
 - Weather
2. Location
 - Loss of cruising routes
 - Squeeze into commercial routes
 - Effect on sailing and racing areas
 - Cumulative effects
 - Visual intrusion and noise
3. End of life
 - Dereliction
 - Decommissioning
4. Consultation

These are detailed in our position statement, referenced above and attached to this email

Chamber of Shipping

At this stage, on reviewing the report we would like to advise you that we have no further comments to submit in return.

Ports and Harbours

Comments incorporated onto Marine Scotland Response

Scottish Government – Planning

The developers should also note that the Highland Wide Local Development Plan will set out The Highland Council's policies on planning for renewable energy. The Main Issues Report for this plan was subject to consultation late last year, and the proposed plan is expected in the summer.

Marine Scotland

The Tidal Device

Each device has two axial flow rotors 16-20m in diameter and can turn at a maximum rate of 14.3rpm with a tip speed of 12m/s. The tubular tower is likely to extend a maximum of 11m above the sea surface. The device is secured to the seabed via 4 pin piles drilled into the seabed to support the quadropile foundation.

Layout and Navigation

The exact location and layout of the devices and cable route have not been selected. From a navigation perspective this proposal would appear, although not specifically stated, to be seeking an exclusion zone throughout the Kyle Rhea area, which may not be appropriate and would require a private act similar to Robin Rigg to achieve this. There is no indication of where within the red site area identified on the various charts the devices would actually be sited and this information will be vital to proper consideration of the navigational impacts. The single chart showing vessel traffic will require full analysis in the NRA which should be carried out according to the guidance and methodology in MGN 371. Cumulative impacts of this and other proposals in the same area will require full assessment in the NRA in relation to vessel traffic diversion/exclusion.

Impacts on Special Area of Conservation (SAC)

The scoping document seems to be very comprehensive and has identified the key impacts with regard to the development. Some surveys and data from other sources have been noted for inclusion in the Environmental Statement (ES). The evidence presented, either new or existing, should ensure that the surveys conducted satisfactorily establish the location of any reef habitats, including biogenic reefs such as *Modiolus modiolus*, and any listed species in respect to the proposed positions of the 4 turbines. It would be extremely useful to know if the quality of the reef structures associated with Kyle Rhea represents the very best of the habitats within the SAC. If they are, it should be considered how this would change the assessment, if at all, in terms of site suitability, additional data collection, array design, installation methodology, etc. This information will also guide the methodologies for site preparation and the installation of the devices and associated cabling. Alterations to the current methodologies will be required as a result of newly acquired information. The re-assessment will have to be designed to ensure their potential for impact on the environment is properly addressed.

Further assessment will need to be made to rule out any detrimental effects, either permanent or temporary, of installation of the devices and changes in current regime on the reef habitat and species present on the reef, particularly those reliant on strong tidal currents. Smothering is one of the key detrimental effects listed but in Kyle Rhea the sediments are all fairly coarse and therefore re-suspension and smothering should be minimal. The installation, replacement and maintenance of undersea cables have the potential to cause direct loss of reef habitat as well as local deterioration of reef habitats and communities.

We note that the developers has considered the SNH advice in the Regulation 33 document for the Kyle Rhea SAC and the required appropriate assessment should also provide information for the ES.

Hydrography

The hydrodynamic regime is process driven and if altered will have an impact on those parameters that are influenced or controlled by the local hydrography e.g. suspended load or habitat alteration. However, the effect significance of the hydrodynamic regime is currently unknown for each phase of the development. Therefore to scope out those parameters that are influenced by the hydrodynamic regime may be a little premature particularly since the array design is unknown.

Potential Impacts

The scoping document seems to have identified the key impacts with regard to the development. The combination of video survey and benthic grabs is essential to adequately determine the dominant habitat types and species present in the development area as large epifauna are generally under sampled by grab and trawl sampling. Existing surveys or data may be acceptable if they can provide sufficient detail of the species and habitats present. An impact matrix would be a good idea to layout the potential impacts of each phase of the development. In the Environmental Statement (ES) it would be helpful for the applicant to include the following information in respect of each phase of windfarm development:

Construction

There should be an assessment of the extent and degree of damage likely to be expected on the intertidal mudflats during the construction of the turbine and the laying of the cable. The developer should provide evidence of the presence or absence of qualifying habitats or species in the vicinity of the marine turbines and cable routes especially *Modiolus modiolus* beds. Existing surveys or data may be acceptable if they can provide sufficient detail of the species and habitats present. Considerable disturbance to benthic habitats will occur from laying the inter-turbine cables by trench. Other less disturbing methods should be considered in the ES.

Details of any noise pollution due to construction and its possible effects seem sufficient for the environmental statement. Marine mammals in the area are likely to be affected by disturbance and noise, which have been identified as issues of concern in the scoping document; the proposed inclusion of species distribution and noise studies should be sufficient for an assessment to be made.

Operation

The proposed plans for the studies into the effects of noise during the operation phase should be sufficient to enable an assessment of impacts. The proposed plans for the studies into the effects of the presence of the turbines on birds should be sufficient to enable an assessment of impacts.

Biological Parameters

In table 4.3.3 where analysis of the use of the area by resident bird populations is detailed, flight height may not be relevant as the developer should focus on the birds spotted flying through the area close to the sea surface to assess interaction. Kyle Rhea is a relatively small area and can be well covered from the beach or boats and therefore aerial surveys for marine mammals and sea tagging may not be required. Baseline noise data is useful provided the developer repeats the surveys once the device is in situ for comparison. Potential limitations to fishing opportunity and effects on catches should be emphasised in section 4.6.

The proposed development will need to consider potential impacts on migratory fish including salmon, sea trout, lamprey and Sandeels during all phases of the project. The potential for offshore renewable projects to impact on migratory fish will vary depending on the design and location of the development in relation to migratory routes for adults and juveniles. Potential impacts may include physical or avoidance reactions at both the individual and population level and there may also be avoidance due to electromagnetic sensitivity at both adult and juvenile stages.

In cases where there is uncertainty over potential impacts it may be necessary for the developer to implement a monitoring strategy to assess the influence on salmonid fish populations. The expected levels of noise production must be identified within the ES and by using published literature, decide what impact, if any, this will have on fish movements through the area. Will it result in avoidance of the area? And, if so, what does this mean for migrating fish? Please refer to Appendix A.

Data collection

The document does not include information based on video footage and digital stills collected by Marine Scotland Science or the tidal stream atlas produced by the Admiralty for the North Coast of Ireland and West Coast of Scotland. In addition, SNH have a lot of seabed survey data for this area which MCT should take into account.

Section 6 takes an adaptive approach based on the collection of baseline data. Data should be made available to the consultees as it is collected to ensure the focus of the survey strategy remains on the main concerns.

The data collection outlined in section 3 is appropriate although additional information specific to the methods proposed such as area extent of bathymetric survey and ADCP deployment duration, etc would be useful. This work will be critical for further assessment and the refinement of an adaptive management approach.

In addition, Marine Scotland would be very reluctant to see physical, biological and human activities that may impact on the marine SAC scoped out until all data collected pertinent to the SAC have been interrogated and the layout of the array confirmed. In Appendix 1 the use of backscatter data to assist habitat identification is not mentioned.

Appendix A

Scoping comments in relation to information requirements on diadromous fish of freshwater fisheries interest

Offshore renewable developments have the potential to directly and indirectly impact diadromous fish of freshwater fisheries interest including Atlantic salmon, anadromous brown trout (sea trout) and European eel. These species use the coastal areas around Scotland for feeding and migration and are of high economic and / or conservation value. As such they should be considered during the EIA process. Developers should also note that offshore renewable projects have the potential to impact on fish populations at substantial distances from the development site.

In the case of Atlantic salmon information will be required to assess whether there is likely to be any significant effect of developments on rivers which are classified as Special Areas of Conservation (SAC's) for Atlantic salmon under the Habitats Directive. Where there is the potential for significant impact then sufficient information will be required to allow Marine Scotland to carry out an Appropriate Assessment.

In order that Marine Scotland is able to assess the potential impacts of marine renewable devices on diadromous fish and meet legislative requirements the developer should consider the site location (including proximity to sensitive areas), type of device, and the design of any array plus installation methodology. Specifically we request that developers provide information in the following areas:

1. Identify use of the proposed development area by diadromous fish (salmon, sea trout and eels)
 - a. Which species use the area? Is this for feeding or migration?
 - b. At what times of year are the areas used?
 - c. In the case of salmon and sea trout what is the origin / destination of fish using the area?
2. Identify the behaviour of fish in the area
 - a. What swimming depths do the fish utilise
 - b. Is there a tendency to swim on or offshore

3. Assess the potential impacts of deployed devices on diadromous fish during deployment, operation and decommissioning phases. Potential impacts could include:
 - a. Strike
 - b. Avoidance (including exclusion from particular rivers and subsequent impacts on local populations)
 - c. Disorientation that could potentially affect behaviour, susceptibility to predation or by-catch, or ability to locate normal feeding grounds or river of origin
 - d. Delayed migration
4. Consider the potential for cumulative impacts if there are multiple deployments in an area.
5. Assess 1-4 above to determine likely risk.
 - a. If there are insufficient data to determine use of the development area, these should be obtained
 - b. If there are insufficient data on the origin / destination of fish using the area then these should be obtained
 - c. Where it is not possible to obtain site specific data, the developer should make a convincing argument why this is the case and apply appropriate expert judgement based on published information.
6. If there is any remaining doubt as to the potential impacts of a particular development, then the developer should recommend a scientifically robust monitoring strategy to assess any impacts either on stocks as a whole, or on particular rivers as necessary.

Marine Scotland Science has just completed a review of migratory routes for Atlantic salmon, sea trout and eels relevant to Scotland, which should be available in June 2010. This will assist the developers in identifying what pre-existing information is available and what supplementary site specific data will be required.

Historic Scotland

Without prejudice and based on the information provided, we consider that it is unlikely that there will be significant adverse impacts on historic environment features within our statutory remit. However, should the proposed development be subject to any significant amendments or revisions, we would be happy to provide further information/advice. We would also need to see the ES to provide our final view on the proposals.

Potential impacts for consideration

We generally advise for such developments that the following potential issues are taken into account in the assessment of the likely impacts:

- on-shore effects
- off-shore effects (including potential effects outside the development site)

On-shore effects

An offshore development has the potential to impact on the setting of on-shore scheduled monuments, category A listed buildings and Inventory designed landscapes. In line with the Government's policy on the protection of the historic environment, any ES produced must assess the significance of these impacts. Our technical guidance note on setting provides information about this issue. This is available at: <http://www.historic-scotland.gov.uk/managing-change-consultation-setting.pdf>

As noted above, we consider that in this case it is unlikely that there will be significant adverse impacts on historic environment features within our statutory remit.

Off-shore effects

The assessment should also consider the significance of potential impacts that might be caused by elements of the development on any archaeological features, such as:

- direct impacts to marine historic assets within the proposed development site which could result from the construction, operation and decommissioning of the tidal array and associated operations, such as the laying of power and control cables etc.
- indirect impacts to historic assets on the seabed or at the coast edge within the proposed development area, and possibly beyond, which may be caused by alteration to tidal currents and sedimentary regimes and by changes to the chemical balance of the water and seabed sediments.

We note that an unscheduled wreck is located in the search area for the proposed scheme. We recommend that the impact on this, and the potential for discovery of unknown sites and artefacts located in the vicinity of the development area, be assessed within the ES with the appropriate involvement of archaeological expertise and in consultation with the Highland Council's Archaeological Service. Our Senior Inspector of Marine Archaeology, Philip Robertson (Tel: 0131 668 8843) would also be happy to provide information/advice if required.

General information and advice

The developer may wish to seek specific advice on the treatment of cultural heritage in the marine environment in The Joint Nautical Archaeology Policy Committee (JNAPC) *Code of Practice for Seabed Development*. This can be found at: http://www.thecrownstate.co.uk/jnapc_code_of_practice_2

Information on the location of all historic environment features can be obtained from PASTMAP at: <http://www.pastmap.org.uk> This is a free, interactive website produced jointly by ourselves and RCAHMS and allows anyone with internet access to display and search data on Scotland's historic environment.

National Policy for the Historic Environment can be found here:

- Scottish Planning Policy (SPP) at: [Scottish Planning Policy](#)
- The Scottish Historic Environment Policy (SHEP) sets out Scottish Ministers strategic policies for the historic environment and can be found at: <http://www.historic-scotland.gov.uk/index/heritage/policy/shep.htm>

Trunk Road Network Management Directorate (Transport Scotland)

The proposed development represents an intensification of the use of this site however the percentage increase in traffic on the trunk road is such that the proposed development is likely to cause minimal environmental impact on the trunk road network. On this basis TRNMD have no comment to make.

Annex 2.

DEVELOPER APPLICATION AND ENVIRONMENTAL STATEMENT CHECKLIST

	Enclosed
1. Developer cover letter and fee cheque	<input type="checkbox"/>
2. Copies of ES and associated OS maps	<input type="checkbox"/>
3. Copies of Non Technical Summary	<input type="checkbox"/>
4. Confidential Bird Annexes	<input type="checkbox"/>
5. Draft Adverts	<input type="checkbox"/>
6. E Data – CDs, PDFs and SHAPE files	<input type="checkbox"/>

Environmental Statement	Enclosed	ES Reference (Section & Page No.)
7. Development Description	<input type="checkbox"/>	
8. Planning Policies, Guidance and Agreements	<input type="checkbox"/>	
9. Economic Benefits	<input type="checkbox"/>	
10. Site Selection and Alternatives	<input type="checkbox"/>	
11. Baseline Assessment data – air emissions	<input type="checkbox"/>	
12. Design, Landscape and Visual Amenity	<input type="checkbox"/>	
13. Construction and Operations (outline methods)	<input type="checkbox"/>	
14. Archaeology	<input type="checkbox"/>	
15. Designated Sites	<input type="checkbox"/>	
16. Habitat Management	<input type="checkbox"/>	
17. Species, Plants and Animals	<input type="checkbox"/>	
18. Water Environment	<input type="checkbox"/>	
19. Sub-tidal benthic ecology	<input type="checkbox"/>	
20. Hydrology	<input type="checkbox"/>	
21. Waste	<input type="checkbox"/>	
22. Noise	<input type="checkbox"/>	
23. Traffic Management	<input type="checkbox"/>	
24. Navigation	<input type="checkbox"/>	
25. Cumulative Impacts	<input type="checkbox"/>	
26. Other Issues	<input type="checkbox"/>	

N.B. Developers are encouraged to use this checklist when progressing towards application stage and formulating their Environmental Statements. The checklist will also be used by officials when considering acceptance of formal applications. Developers should not publicise applications in the local or national press, until their application has been checked and accepted by officials.